

Machine Repair Certificate

(Maintenance Technology – Associate Degree path)

This certificate program is designed to equip students with the foundational skills and knowledge necessary to enter the field of machine repair. Through a blend of classroom lecture and hands-on experience, students will learn basic hand tool and machine operations and theory, electrical theory, hydraulics, and pneumatics. Foundational areas, including blueprint reading, drafting, and mathematics, will also be covered.

This program is designed to prepare students for success in careers in industrial machine repair. As manufacturing and related industries continue to expand and evolve, those qualified in machine repair will be needed to keep machines in optimal working order. This program is a good fit for individuals who enjoy working with their hands, with an emphasis on troubleshooting, problem solving, and mechanical reasoning. Those who graduate with this certificate have a foundational knowledge of the operation and maintenance of equipment used in modern industrial facilities.

A certificate will be awarded to students who successfully complete the following courses:

Career Preparation and Related Courses

		SUGGESTED SEQUENCE				CREDIT HOURS	CONTACT HOURS	
ATAM 1150	Shop Arithmetic	■	□	□	□	2	32	
ELEC 1300	Electrical Equipment & Introduction to Machine Circuits	■	□	□	□	2	32	
ATDD 1950	Drafting Essentials	■	□	□	□	2	32	
ATMT 1210	Benchwork, Drill Presses & Lathes	■	□	□	□	2	32	
ATAM 1160	Algebra	□	■	□	□	2	32	
ATDD 1960	Conventions & Symbols	□	■	□	□	2	32	
ATMT 1250	Shapers, Planers, Mills & Grinders	□	■	□	□	2	32	
MECT 1320	Industrial Hydraulic Fundamentals	□	■	□	□	3	64	
ATAM 1170	Geometry	□	□	■	□	2	32	
ATDD 1970	Three Dimensional Shape Interpretation	□	□	■	□	2	32	
MECT 1310	Pneumatics Technology Fundamentals	□	□	■	□	3	64	
MECT 1330	Electro-Hydraulics Technology	□	□	□	■	3	64	
AEM 1350	Mechanical Blueprint Reading	□	□	□	■	2	32	
ATMT 1300	Metallurgy—Characteristics of Ferrous Metals	□	□	□	■	2	32	
						Total	31	544

In cases where prior training or education is documented, specific courses may be substituted for one or more of the above courses as conditions warrant. Suggested alternate courses, which may also be used as electives toward an associate degree, are listed below for consideration. Contact the Applied Technology and Apprenticeship department for details.

Suggested Alternative/Elective Courses:

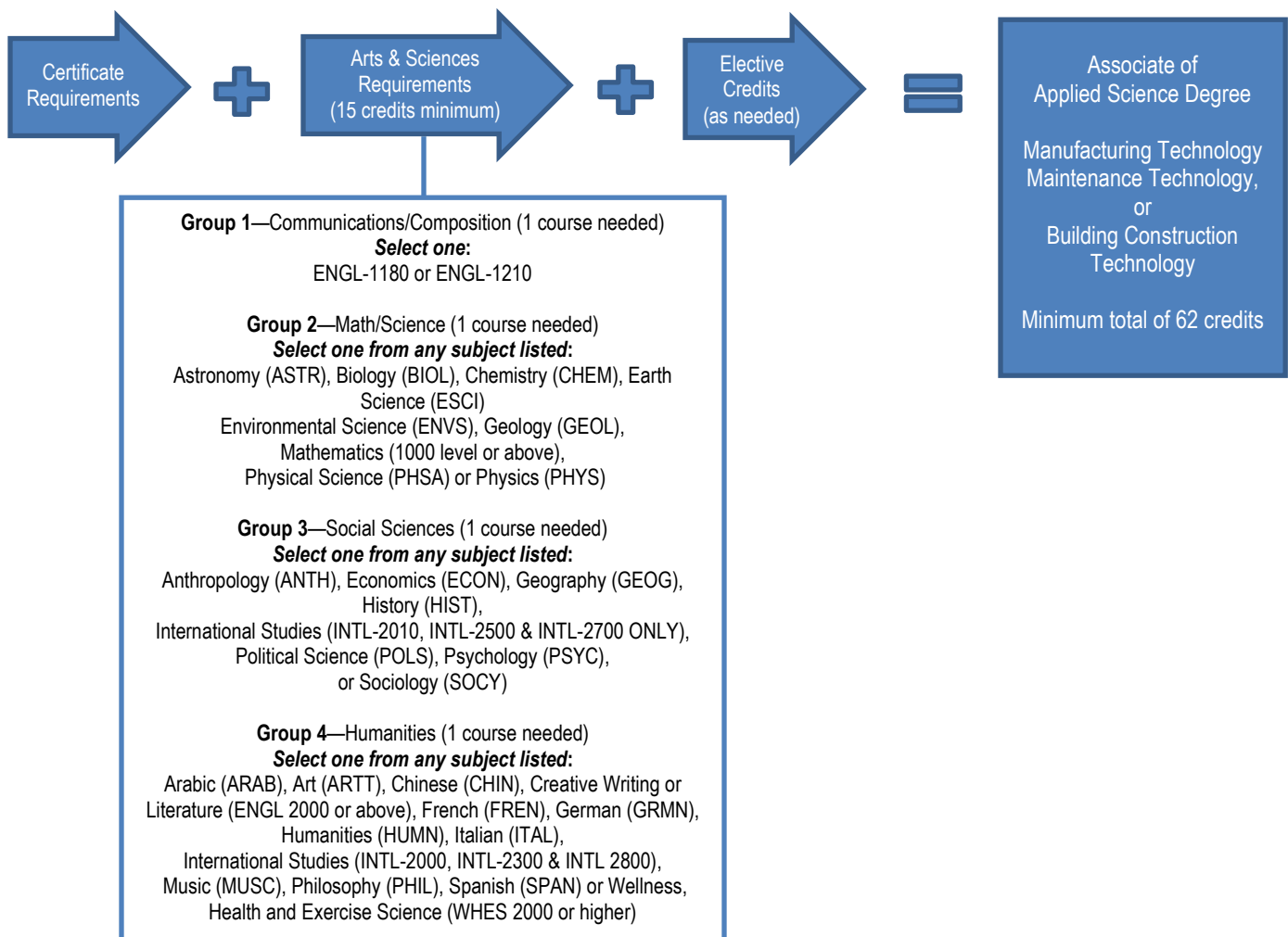
ATMT 1950	Science—Physics 1: Mechanics	ATWD 1130	Shielded Metal Arc Welding (SMAW)
ATDD 1900	Machine Tool Blueprint Reading	ATAP 1050	CNC Essentials
ATTR 1600	Industrial Safety—Skilled Trades	ATMT 1150	Machine Tool Laboratory 1
ATAM 2150	Trigonometry	ATMT 1160	Machine Tool Laboratory 2
ATWD 1110	Fundamentals of Gas & Arc Welding	MECT 2645	PLC Basic Programming—Allen Bradley

SEE SECOND PAGE/REVERSE SIDE FOR ASSOCIATE DEGREE REQUIREMENTS

Associate of Applied Science Degree Requirements (Minimum 62 credit hours)

An Associate of Applied Science Degree is offered for those enrolled in or completing an Apprenticeship, Employee-In-Training, or General Certificate Program. Other College requirements apply, including the completion of the arts and sciences (general education) requirements, as well as attaining a minimum overall total of 62 credit hours. See Apprentice Coordinator or Advisor for details.

Students may graduate with an Associate of Applied Science Degree in Manufacturing Technology, Maintenance Technology, or Building Construction Technology, depending on the Apprenticeship, Employee-In-Training or General Certificate Program area of specialty.



Information is subject to change. Please visit www.macomb.edu for the most current information.

For more information on the Machine Repair Certificate Program at Macomb, contact the Applied Technology and Apprenticeship Department at 586.445.7438 or apprenticeship@macomb.edu.